

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/012229

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ H04B3/58, H01F17/06, H05K9/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ H04B3/54-3/58

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

| | | | |
|---------------------------|-----------|----------------------------|-----------|
| Jitsuyo Shinan Koho | 1922-1996 | Toroku Jitsuyo Shinan Koho | 1994-2004 |
| Kokai Jitsuyo Shinan Koho | 1971-2004 | Jitsuyo Shinan Toroku Koho | 1996-2004 |

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|--|------------------------|
| X Y | JP 62-147821 A (Mitsubishi Electric Corp.), 01 July, 1987 (01.07.87), Particularly, page 3, lower right column, lines 2 to 20; Fig. 1 (Family: none) | 1, 3, 10, 11 2, 4-7 |
| Y | JP 07-123035 A (Nissin Electric Co., Ltd.), 12 May, 1995 (12.05.95), Particularly, Par. Nos. [0014], [0016] (Family: none) | 2 |
| X Y | JP 52-109815 A (Westinghouse Electric Corp.), 14 September, 1977 (14.09.77), Particularly, Fig. 5 & US 4016429 A & CA 1058089 A | 12 4, 6 |

☒ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

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"P" document published prior to the international filing date but later than the priority date claimed

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&" document member of the same patent family

Date of the actual completion of the international search
09 November, 2004 (09.11.04)Date of mailing of the international search report
30 November, 2004 (22.11.04)Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

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INTERNATIONAL SEARCH REPORT

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| C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT | | |
|---|---|-----------------------|
| Category ^a | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
| Y | JP 08-223092 A (Toshiba Corp.), 30 August, 1996 (30.08.96), Particularly, Fig. 7; Par. No. [0005] (Family: none) | 5, 6 |
| Y | JP 2003-134003 A (Matsushita Electric Works, Ltd.), 09 May, 2003 (09.05.03), Particularly, Par. No. [0003]; Figs. 11, 12 (Family: none) | 5, 6 |
| Y | JP 09-284255 A (The Furukawa Electric Co., Ltd.), 31 October, 1997 (31.10.97), Particularly, Par. No. [0014] (Family: none) | 6 |
| Y | JP 11-284552 A (Mitsubishi Electric Corp.), 15 October, 1999 (15.10.99), Particularly, Par. No. [0025]; Fig. 2 (Family: none) | 7 |
| A | JP 11-331051 A (Anten Kabushiki Kaisha), 30 November, 1999 (30.11.99), Particularly, Par. No. [0004] (Family: none) | 8, 9 |